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# CORPORATION TRAINING

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3. To assist established educational institutions in interpreting the needs of commerce and industry by maintaining reciprocal relations with them.

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# CORPORATION TRAINING

March, 1922

## Principles Underlying Effective Training of Employees

By C. R. Mann

*Chairman of Civilian Advisory Board, War Department, formerly Professor of Physics, University of Chicago, investigator for joint committee on Engineering Education of the National Engineering Societies and the Carnegie Foundation for the Advancement of Teaching.*

**T**HE PERENNIAL problem of industry is to bring together the right man and the right job. Work must be done. Men must do it. Who will do what, that each may contribute most to the achievement of the end sought by all?

As in every constructive enterprise, so here, measurement is prerequisite to making a good fit. Measurement means defined standards, appropriate units and a practical procedure. Men and jobs must be fitted together; what standards, units and procedure will best accomplish the task?

It takes years to perfect a system of weights and measures. First measurements are always crude. As practice in their use is gained and the underlying hypotheses are tested, they become more suitable and accurate. Measurements of men are no exception to this rule. The present expedients are unquestionably full of error. Study and experiment are needed to correct them.

### Job Specifications and Objective Tests of Men.

So far the best results in fitting men and jobs together have been secured by the use of suitable specifications of the job combined with objective tests of men.

Successful job specifications define both what must be done by a man on the job and what the man must know to do the job well. Specifications also set standards, which state how well each portion of the job must be done.

Tests measure proficiency. The best tests are those that give maximum accuracy in minimum time. This is true when the

candidate's performance leaves a record that shows obviously how well he has succeeded. Such tests are called objective tests because the results are independent of the subjective judgment of the examiner.

Job specifications and objective tests are at present the best available measuring devices for fitting together men and jobs. They are all that is needed when there are plenty of skilled men and the problem is to place the men most advantageously.

When the supply of skilled men is exhausted, green men have to be trained to do the work. The job specifications then define the objective of training. They set the goal. The tests then measure progress and tell when the man has arrived.

### **Relation of Job Specifications to Training.**

In order to use job specifications as a goal for training, they must be analyzed into a series of smaller fragments, each of which is small enough to make a reasonable lesson. A specification for a telegraph operator that calls for ability to send messages at the rate of twenty words a minute cannot be met by a single lesson. A series of lessons must be prepared such that their cumulative effect will accomplish the desired result with maximum thoroughness in minimum time. Such subdivisions of job specifications are called instruction units.

The analysis of job specifications into instruction units may be made in a large number of ways. The success of instruction depends in large measure on how this is done. It is the general practice of text-book writers to follow the model of Euclid, proceeding in logical order from axioms, definitions and theoretically simple elements to more complex systems. This procedure seems rational to one who has mastered a subject and organized it logically in his own mind.

The experiences of life, however, do not present themselves in logical order. The situations one faces continually are infinitely complex. Until a beginner has had practice in selecting the significant factors of a complex situation and in recognizing the logical elements involved, his logical learning often fails to function. Whole classes in geometry have been unable to find a parallelogram among the objects in the class room around them.

Experience during the past few years in the army in training many hundred thousand men to do well the work of the military establishment has demonstrated that the best results are secured when the job specifications are analyzed into jobs or operations.

These smaller jobs or operations constitute the instruction units of which the course is constructed.

Criticism has been made of this process of training men by instruction units, each of which is itself a job or operation. It has been claimed that such training develops manual skill and narrow specialization, but does not give breadth or grasp of principles. The validity of this criticism depends on how the instruction is handled. The organization of subject matter is but one factor in a teaching program.

### **Purpose of Instruction.**

The army recognizes that the instruction materials, selected by the process of job analysis just described, must be so handled in school as to achieve a double purpose. The graduate must be technically skilled—he must have dexterity to do the job well. He must also be so saturated with the underlying principles and related information that in an emergency, when compelled to act on his own initiative and judgment, he will instinctively act with intelligence, loyalty and fidelity to his comrades. In other words, he must have drill and practice to develop accuracy of eye and touch essential for automatic skill. He must also frequently face new situations and problems that keep him continually adjusting his mind to new facts and first principles.

The best results in achieving this double objective of automatic skill and intelligent judgment through practice and orientation has been secured in the army in those post schools that have been organized as far as possible for productive work. To this end the job specifications have been analyzed into jobs or operations that contribute to the maintenance of the post or to making it a better place to live in. The activities of the school then center about a flow of productive work. In the seven divisional camps that were operating last winter the post schools did more than \$250,000 worth of productive work and had better educational results because of it.

Technical training that succeeds in developing both automatic skill through practice and intelligent judgment through orientation is still open to the criticism of narrow specialization, provided attention is not also paid to that wide range of situations and problems that grow out of the relations of men with men. The shop practice naturally emphasizes mastery of materials and principles of natural science. The social, economic, political and religious customs and institutions are apt to be more or less overlooked.

**The Humanizing Elements in Training.**

To supply this humanizing element, which may be called the liberal component of training, the army has collected a series of short anecdotes that present situations and problems in human relationships. The facts and principles involved are discussed with the men in such a way as to stimulate them to adjust their minds to the case and form judgments as to what action is called for to improve matters. The first episodes and cases are chosen from army life, but they gradually expand in scope until they include national, international and even philosophic problems. In every case the ethical import is carefully considered.

It is, of course, clear that this liberal component of the soldier training has the same double objective as has the technical component. His daily relations give him practice in dealing with men and the analysis of these everyday cases furnishes the needed orientation concerning the human values in life. An industrial firm can readily develop similar courses to orient employees on its mission, its policies, its service to men and its relationship to the world's work. These courses in the army have proved to be powerful agencies for developing fine morale.

**Essentials of a Training Program.**

The foregoing principles as worked out in army training have resulted in the production of better workmen in less time. In some cases the time of training to standard proficiency has been reduced more than half. Industry and the public schools can accomplish like results, if they are willing to work over the necessary detail with sufficient care and patience. The five essentials of the program are:

1. Job specifications that define the objective.
2. Tests that measure proficiency.
3. Job analysis into practical instruction units.
4. Technical instruction that secures both practice and orientation.
5. Practice and orientation in the liberal component.



# Training Office Workers

By Wallace Clark

*Management Engineer*

**I** SHALL NOT attempt to cover the whole field of the training of office workers, but merely mention some things which can be taught them.

An office worker can be shown that the purposes of an office is to serve rather than control. The usual business organization has at least two distinct parts, manufacturing and distributing. In some cases it may be primarily a manufacturing concern with its selling taken care of by some other organization, or on the other hand, its principal interest may be selling and it may purchase from another company which manufactures. In either case there will be two distinct tasks, first, getting the goods and, second, getting rid of the goods.

## Function and Place of an Office.

There is usually a small group of executives who direct the operation of a business. Under their direct or indirect charge there is also an office which comes between the manufacturing and distributing. I have been in the habit of regarding this small group of executives in control of the business as separate from the office rather than a part of it, so that when I refer to an office, I mean the organization which serves these executives, the manufacturing end and the distributing end.

For an office to be successful, the members of its organization must realize that they are there to serve manufacturing and selling and not to control it. For instance the office manager, the head of the order department, or the controller of the company should not attempt to tell the manufacturing plant what it can make and what it cannot, or the sales force what they can sell. It is the duty of these men in the office to keep records and present them in such a way as to help the distributing organization to sell the things which can be manufactured at a reasonable cost.

It seems to me that one of the first things to be taught a new employee is to accept the point of view that an office is organized for service.

Another feature of office work which should be understood by the members of an organization is that an office is engaged

not in originating things, but in transmitting them. For instance, an order originates in the sales department and passes through the office on its way to the manufacturing plant; the order is translated by the office into terms which will be understood by the organization which does the manufacturing. On the other hand, a new product comes from the manufacturing department and information in regard to it is translated by the office into terms which will be understood by salesmen and customers. The office also keeps records of what has been done and files information of various kinds which is applied to these two constantly moving streams, one from the selling to the manufacturing and the other from the manufacturing to the selling.

### **Test of Office Efficiency.**

To measure the effectiveness of the management of an office is to measure the rate at which work goes through that office. We are dealing here with a moving force. What is the momentum of that force? Think of your own office. Is the momentum of those two streams retarded or accelerated by your office? Do orders come in and go straight through, or do they come in and wander around the office and sit down for a little rest before they go out the other door? Is it the same way with information which is to be transmitted from the plant to the customer?

That is the second thing which I believe can be taught employees; *the effectiveness of an office is judged by the rate of flow of work through that office.*

Getting office work done is limited by three things, time, cost and quality; that is, first, it must be done at the right time; second, it must be done at a reasonable cost; third, it must be done in accordance with a definite standard of quality.

I say a definite standard of quality rather than a high standard of quality because a high standard is not always necessary. Take for instance, the appearance of letters. An investment broker, a Fifth Avenue jeweler, or a manufacturer of typewriters must send out of the office letters which give the impression that everything in that office is done with extreme accuracy, by well educated people. On the other hand, letters which go out of a mail order house should not be too well typed. Customers are buying from that house because they believe that they can get more for their money there than anywhere else, and they do not want to pay for "hyfalutin" letters. The standard



of quality of the work done in any office is determined by the executives of the company, and this standard should be definite and clearly explained to all employees.

The relative importance of these three limits to getting work done, time, cost and quality, constantly varies. It may be impossible to get certain work done when it is wanted without sacrificing quality or increasing its cost. No general rule can be laid down to determine the relative importance of these three limits.

### Analyzing the Difficulty.

Granted that these three things are taken into consideration in measuring the rate at which work moves through an office, let us suppose in a given case that this rate is not satisfactory. What is to be done about it? The obvious step is to find out what interferes with the flow of work.

Let us take an order department as an example. There may be on the average 100 orders received per day. It is the duty of this department to add certain information and pass these orders through to the plant. The department is provided with the requisite number of employees and with the necessary equipment to handle this quantity of orders. Let us get the head of that department to report at the end of each day the number of orders he has put through and the number he has left over at the end of the day, with the reasons why these orders were not put through. In the figure of 100 per day we have the rate of flow of work which is considered satisfactory. In the number which were put through, say 80, we have the actual rate at which the work went through. In the reasons for not putting through the other 20, we have the obstacles which stood in the way of this department, that is, the conditions which retarded the flow of work.

Take another, say a purchasing department, which buys supplies or equipment for a large office. Their work comes from the office in the form of requisitions, but there is no regular flow of work, so that it is impossible to say that their day's work consists in handling 50 requisitions. However, it is possible for them to handle each day all the requisitions which they receive, say, up to three o'clock. They can get in the mail before they leave each night purchase orders or requests for quotations covering whatever requisitions they receive before three. At the end of the day the head of that department can

have made out a report showing the number of requisitions received, which is the desired momentum, the number of orders placed and the number left over at the end of the day, with the reasons why.

Take as a third example, a stenographic department. The task of the head stenographer is to have transcribed all work dictated through the day and to turn out all the copy work which is wanted that day. At the end of the day, her report shows the number of lines dictated, the number transcribed and the number left over, with the reasons why. Those reasons might be absence of stenographers, typewriters in need of repairs, the fact that someone dictated a large amount of mail after three o'clock, that several stenographers were idle until half past ten in the morning waiting for dictation, and so forth. The head stenographer thus reports to her superior the rate at which work went through her department compared with the desired rate and enumerates the obstacles which stood in her way.

#### **Removing the Causes of Delay.**

Knowing these facts, they are able to prevent the recurrence of such delays. In the average office the delays which are brought up in this way are of great variety. Some of them can be removed only by the executives of the company, others are under the control of the office manager, the department head or the worker himself, but a knowledge of these delays should help each one to overcome the obstacles over which he has control. I have found that delays are frequently due to undefined responsibilities—cases where authority and responsibility do not match. Another fertile cause of trouble is complicated methods; things which have been done the long way on account of unusual conditions or peculiarities of employees. When those conditions changed, or employees were transferred, methods had not been straightened out. Such delays point out the need of simplified methods.

When we have found out what interferes with the flow of work through an office, an employee can be trained to simplify his own methods and to overcome his own obstacles. This gives him a greater interest in his work and develops his initiative.

When delays are avoided, obstacles removed and work is flowing smoothly and rapidly through an office, you will find workers well-trained and the office as a whole organized for service.

# Training of Office Employees

With Special Reference to Junior Executives

By Mark M. Jones

*Curtis, Fosdick & Belknap*

**E**DUCATION impresses me as standing for something more than is immediately involved in promoting the ends of a given business. It would have more to do with the addition to the present quantity of knowledge and ability of the individual than would be necessary from the standpoint of immediate productivity or early promotion. It might not necessarily have an important bearing on the work of the individual on his present job, but in the long run would contribute to building up his usefulness as the preliminary to promotion.

Training, on the other hand, impresses me as a very definite and immediate concern of any business which employs more than a few individuals. It is a form of preventive work designed to supplant the "trial and error method" by which the employee acquires information about a given business, a department, and a position. It has to do with fixing the place of the individual in the team of which he is a member, delimiting his responsibilities, refining his relations with his co-workers, and building up skill for immediate productivity. It presupposes the accumulation of the experience of that firm with regard to the position involved and as a minimum at least, should apprise the worker as to what "won't work."

The expense of education would not impress me as a proper charge against current operations. It would seem more in the nature of an investment. As it represents an intangible asset, however, I should adopt the more conservative classification of "deferred charge against operations." Training, however, is more immediately effective, and seems, therefore, a proper charge against current operations.

It seems to me that there can be little room for argument with respect to the value of or need for training. It involves everything from communicating the basic information necessary for the assimilation of the newcomer into the office force to practice designed to increase skill in doing a given piece of repetition work.

I see two main aspects of the general question of training which may be of interest to you. One has to do with the initial

period in the relations of employer and employed, and mainly bears on the induction of the individual into the organization and providing him with that minimum of training which builds up the values he brings to the skill necessary for him to produce results worth more than the cost of the results he produces. There is a body of necessary information which at the time an individual goes into an organization is usually picked up by that individual of his own accord. It is seldom organized and presented to him in a form which makes him more quickly productive. The other aspect has to do with reviving waning skill as a temporary measure or installing a new method or process of performing the same operation. Too often nothing is done to combat the reactions which come after long periods of pressure or sustained effort. At the same time important changes are made in methods or processes without the individual or collective training of the persons upon whom the value of the new method or process depends—the worker. Training should serve both ends.

Now to take up the Junior Executive. It seems to me important that we should consider not only the training of the Junior Executive, but the use of the Junior Executive to train the rank and file.

The conditions in each enterprise have an important bearing upon just what is to be done in the training of the Junior Executive; yet there are some ideas of general interest, and I shall present a few in the hope that they may contribute to an interesting discussion. The first has to do with the importance of training the Junior Executive to think in terms of the whole. Specialization so often proceeds so far beyond the point where it is efficient that something must be done to restore balance. To that end, the Junior Executive may be trained to think in terms of the whole, with his particular department and problems as a background. This may be done through participation in the consideration of problems of the business as a whole, through a temporary assignment to other departments, through assignment to investigate and suggest the manner of meeting an emergency, through assignment to teach other employees, and through a certain amount of that education which acquaints the Junior Executive with the broader theories of economics, organization, and administration, which raise his vision of his job. At the same time, it seems that training may be resorted to, in order that we may re-establish balance where an unusually

aggressive personality has developed a department beyond other co-ordinate departments.

In training personnel, it seems to me that the Junior Executive is the first agency to be considered for the purpose. He is on the job as one of the agencies of administration, has the background of daily experience which may be used to great advantage in the training process, and needs that raising of vision which results from stepping aside from the daily rush, reflecting, teaching, and discussing.

At the same time training is a distinct part of the job of every executive. In some cases he may devote but a small portion of his time to it. In other cases it may consume more than half of his time. In general it has been ignored by executives.

It seems to me, however, that there is a certain amount of training which cannot be avoided by any Junior Executive, regardless of the pressure of other matters. It has to do with the installation of the new employee and the building up of his productiveness to the level of the department or the point where he or she is a source of profit to the unit. Introduction to other employees, the basic information desired with respect to hours, vacations, pay-day, etc., may be communicated by the Junior Executive, and other information-giving opportunities of that nature utilized as the foundation for pleasant relations and that understanding which must precede confidence and co-operation.

Whether there shall be a special training department is not a subject for general discussion. My view is that you must always consider the agencies at hand and when they are inadequate create a new agency. Of course, the volume of business and the pressure upon the organization may make it impossible to utilize the Junior Executive for a considerable amount of training. Training departments as a special staff function are useful under certain conditions and a very definite place and opportunity exists for them. Even though Junior Executives be utilized for training there is a need for detached study and research, and for the preparation of material bearing upon the broad aspects of the problems of the business which in the larger enterprises create a distinct need for the staff specialist. As I see it, there is a great need, however, to consider each situation with respect to the ends to be served first. The means may then claim attention. Training is a means to an end.



## Training Junior Clerical Employees in Banks

By Paul C. Holter

*Personnel Director, Chase National Bank*

**S**EVERAL YEARS ago it cost a certain company \$369 for typists to turn out 48,000 square inches of typewritten work, or at the rate of \$7.69 per thousand square inches. A few years later, after the management had made a scientific study of the situation, and after it had introduced a method of selecting the best-fitted applicants, followed this by a period of training, decided what constituted a "day's work" as a standard, and based its remuneration accordingly on the quantity and the quality of the work, the same department produced in one week 115,000 square inches with nearly half the number of employees and an average increase of about 25% in the pay of those employees. For the same amount of work it then cost the company only \$297 against \$369, or \$5.66 per thousand square inches against \$7.69.

### **Difficulty of Securing Trained Bank Clerks.**

Those of you who are affiliated with banks appreciate the difficulty of securing trained workers, such as adding machine operators, currency or money counters, statement machine operators or transit department clerks who can sort, list, advise and handle items properly. It takes from a few days to several weeks of training before such workers are capable of performing the tasks assigned to them with any degree of speed, care and accuracy.

Not very long ago a messenger, a young lad who had never been employed before, was instructed to make a collection from a certain firm. It was quite late in the afternoon when he received a check of several thousand dollars, and instead of returning with it to the bank he thought it perfectly safe to take it home and hand it to the department head the following morning. He had not realized the seriousness of such an act. A friend of mine related to me the case of a youngster on the messenger force who, when he received a check of \$150,000, thought it would be most interesting to his father and mother to see a check so large, and therefore took it home over-night. You can imagine the excitement which reigned until the check was delivered the following morning.



It does not require a great stretch of the imagination to recognize how desirable it would be to have new employees able to do an average day's work immediately upon placement, and how remarkably this would aid in the operation of an organization. A young man who does not "know how" faces discouragements and distractions which do not help to stimulate and create a wholesome, sound and satisfying outlook, when thrown into the maelstrom of some of our large banks and business organizations. "He is at sea." But if he is trained to operate an adding machine with dexterity, or to count currency, and if he knows how to distinguish United States Notes from National Bank Notes, Federal Reserve Notes and Federal Reserve Bank Notes, how to detect counterfeits and to sort properly, or to list and sort checks according to clearing house numbers, much of the strangeness soon disappears. If any of you have ever tried to "break in" a new employee, and no doubt all of you have had such experience, you will understand how much of the other fellow's time is consumed in showing the new arrival how to do his work, and how the risk of errors is multiplied by the introduction of new employees.

#### **Value of Training.**

I know of an instance where in the short period of a few months, even in such a simple operation as sorting checks, the percentage of missorts jumped from less than 1% to over 3% owing to resignations and other changes in the department and the consequent lack of training in the personnel of the department.

It is an excellent contribution to the success of an organization to give the office boy, the messenger, the file clerk, the transit clerk, the currency counter, the Clearing House clerk and the bookkeeping machine operator a picture of the "whole works," its policies, what it stands for among the banks of the community, and how important a part "he" plays in the realization of its ideals, and that its success is "his" success and that the organization or bank needs his viewpoint as much as he needs the bank's viewpoint.

Although there may be other causes of turnover in certain departments of banks, yet lack of training is a very serious cause and you are certain to experience a decrease of turnover as a result of proper training and mastery of the tasks assigned to juniors. In addition you will find that fewer employees will be required to perform the work.

In one downtown bank where the turnover was kept down to a minimum and where all the members of the department and particularly the new employees were properly trained the output increased almost 30% within a six months' period after the training program began. Moreover, the need for training is greatest in proportion as the turnover is great. Otherwise the output will suffer.

Training decreases listlessness and lack of interest. I know of nothing that stifles enthusiasm, loyalty and ability of employees who have been connected with an organization for a number of years so much as a realization that they are in a rut, or that progress and promotion is either very far off or blocked entirely.

Where such employees have simply acquired their experience or ability by rote, it would furnish no small incentive to introduce some method or form of training suitable to such a class in order to inject new zest, new life and new enthusiasm into them. As a consequence errors will be reduced, new and improved ways and means of performing tasks will be discovered, unnecessary motions eliminated, and the speed and the amount of work accomplished increased. Such training will also act as a guide for promotions.

If "old" employees are properly trained and "see" opportunities for promotion it improves their morale and decreases the turnover. For the "old" employees need the proper outlook, desire the same knowledge of the organization's policies and need encouragement just as much, if not more, than the new employees.

If it costs a bank \$100 for engaging, "breaking in" and training a new employee, one can easily see how the cost would mount in departments where the turnover is heavy. This is an estimated cost. In some banks, the cost is doubtless lower, in others higher.

The cost of training is more than offset by increased output, by decreasing turnover, and by decreasing the total number of employees necessary to perform a given amount of work. Training decreases costs by teaching approved methods, by developing improved methods and by eliminating errors. If a statement machine operator is shown how to adjust a chair for proper and rapid work, how important correct posture is, how the one hand should be utilized for certain operations and the other for a different set, and how to eliminate unnecessary motions, the quality and quantity of her work will be increased in propor-

tion. In order to get the best results in a type of work, a complete and exact knowledge of the best way of doing the work must be known, proper equipment and materials provided, and some one *willing and able* to show the untrained person how to make use of such information and tools, placed in charge.

Since modern banking is such an exact business, a very large percentage of the work being performed with the aid of all sorts of mechanical devices and machines, the necessity for trained operators is becoming more and more important.

### Methods of Training.

The first method of training is the "sink or swim" method by which the employee is expected to gain his experience and knowledge through the performance of his daily duties.

Second, he may be instructed more or less haphazardly by older employees.

Third, he may be instructed by the Department Head.

Fourth, he may be trained by means of an operating manual which outlines his duties, functions and tasks.

Fifth, he may be trained by special instructors.

Sixth, he may be instructed in a part time school.

Seventh, he may be trained in the company's vestibule school or classes.

Eighth, he may be trained in a specially equipped school in courses such as the New York Chapter of the American Institute of Banking provides. Here he is taught such subjects as Bank Arithmetic, Bank Bookkeeping, Banking Practice, Elementary English, Business English, together with more advanced courses on Credits, Money and Banking, Foreign Trade, etc., as he progresses in the bank.

Quite naturally the place for training will be determined very largely by the method adopted. It may be in the department, in special rooms in close proximity to the office, or at quarters apart and away from headquarters. This raises the question as to those who should do the instructing—whether trained teachers who have been taught the operations, or trained operators who have been taught to instruct. It is reasonable to expect that instructors should fire the imagination of the worker and indicate not only the specific reason for each motion, act or operation, but its relation to the whole in its entirety. In the case of machine operation standard and rapid methods of fingering should be taught.

As to the length of training, I leave that open for your discussion:

- (a) Should it be a predetermined period, or
- (b) Should it depend on the completion of a certain amount of work, or
- (c) Should it be governed by the attainment of a certain grade of efficiency?

The last and most important issue which I wish to stress, one which is so often neglected and slighted, is the necessity for following up employees who have had training.

1. What is the best means of checking the progress of the employee? Should his record be reviewed after certain set and stated intervals—after one month, two months, three months, and then every three or six months?

2. What methods or systems are best in order to check the value of the training?

The trained man will always prove himself to be the most successful. But it is not so much a question of merely knowing that counts. It is rather a question of *knowing how to apply what you know*.

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### Bank School in Milwaukee

The First Wisconsin National Bank of Milwaukee has established a system of classes for its 450 employees who are obliged to attend classes. Cashier A. G. Casper is chairman of the Educational Committee, whose functions are those of a Board of Education. Arthur H. Lambeck is the full-time Educational Director.

Classes for pages, messengers, junior clerks, are conducted during the day. Classes for others, including senior clerks, are conducted in the evening.

A branch of the public library is maintained at the bank for books on general subjects, but the bank provides its own library on business and financial subjects. Senior clerks are taking courses either with the Benjamin Franklin Institute, the Sheldon School, or the Alexander Hamilton Institute.

# Training Office Employees

## Report of Discussion

By H. M. Jefferson

*Manager of Personnel Development Department,  
Federal Reserve Bank of New York*

THE articles by Messrs. Jones, Clark, and Holter were addresses delivered before the section on Training of Office Employees of the joint meeting of the Executives' Club of New York and the New York Chapter of the National Association of Corporation Training on February 17th at the Bankers' Club. These papers were discussed by Messrs. Jones, Hopf, Steffans, de Motte, Bergen, Taylor, Lough, Jenson, Cook, and Eddy. Mr. Harry A. Hopf was presiding Chairman.

HARRY A. HOPF, H. A. Hopf & Co. Training must prove that it has dollars and cents value. It must appeal to common sense. It would be a miracle if we could successfully place workers in an organization without training. It would also be difficult to work out a program that would include all workers in a large organization, and I therefore feel that the first consideration should be given to pivotal or key men.

ROGER STEFFANS, Educational Director, National City Bank. The National City Bank has tried many things in educational work. Its present system, which consists of having a course only for junior clerks, and co-operating with outside agencies, is perfectly satisfactory. I should like to ask Mr. Holter two or three questions:

How does training operate at the Chase National Bank?

Does he consider it successful?

How does he know it is successful?

MR. HOLTER: Our educational program is in the experimental stage. We have scrapped a lot of material that was useful during the war, but which would not be satisfactory at the present time. We are feeling our way but have no data on current work.

MR. HOPF: If a training program were started with a job analysis and complete knowledge of the elements with definite standards established, it would be possible to make it more closely approach the realm of practicality.

L. W. DE MOTTE, Personnel Director, American Express Co.: I should like to ask Mr. Clark the question as to whether training should be done on company or individual time.



WALLACE CLARK: In shop work we find it practical to do nearly all of the training on company time. Some classes of work, such as draftsman training, can be done just as well in the evening.

H. B. BERGEN, Employment Manager, Henry L. Doherty & Co.: The question whether the work should be done on company or individual time depends upon the kind of training. If it is training designed to improve the quality and quantity of output, it should be done on company time. If the work is more cultural in its nature, it should be done on the employee's time.

MR. HOPF: Training should be defined as something that develops vocational skill, and educational work is something which improves the intellect. It is my belief that training work should be carried on in the same manner as any other operating work. The training division should be charged with the cost of the raw material and with all other operating expenses, and should be credited with the proceeds of the work which it turns out. It will then be possible to assay its real value.

(NOTE) At this point Mr. Hopf asked for a vote on the question whether training, in which the object is to train employees to do their work better, is something for which the company should pay. Fifteen affirmative votes were recorded, with no doubtful, and no negative votes.

DEAN A. W. TAYLOR, Wall Street Division, New York University: I wish to raise the question as to whether the organization of an office is such that men can be released for a definite part of the day and put into classroom work. It seems to me to be possible in industries, but I do not think it can be done in office work without making provision for a sufficient number of workers to permit the withdrawal of a part of them for training.

MR. CLARK: The training work in the industries is not always done during the day, but if the classes are held at night, the employees are reimbursed by the company.

MR. HOPF: The organization of an office has a great deal to do with the question whether the particular office may find it expedient to release employees for study. The character of the work enters into the question. In spite of all these things, if we can determine that training has a dollars and cents value, it would be well worth while to have a reserve staff so as to be able to withdraw workers from the departments. The main thing is to set up standards of measurement of the value of the



training work. An employee who enters a department without training is not assessed properly. No one knows how much the work of the department is retarded by his presence. We should find a means of determining his value before the training begins and after it is ended.

MR. DE MOTTE: We are now talking about training for a job. Training for promotion is very important. Opportunities are scarce and some men are likely to get into "blind alley jobs." It is my belief that some "blind alley jobs" are necessary.

MR. HOPF: I cannot agree with that. You should meet the situation clearly. If you cannot find a place in your organization worthy of a man, tell him so frankly and help him get a job elsewhere. Establish definite standards and show the man just what his line of progress is.

MR. DE MOTTE: I should like to hear from Mr. Steffan on the general question of educational work.

MR. STEFFAN: There are many pitfalls in this work. For five or six years we tried to teach everything inside the institution. We have abandoned all this and the only thing we do now is to teach those who come to us untrained, that is, the young boys. We expect others to teach men to count money, to take dictation on typewriters, etc. Suppose a department has fifty clerks. It is a question how one of these clerks can be trained in the work he is doing in order to improve his quality. Bank work is divided into small units each of which is extremely technical and we feel that it can best be done on the job. The department head or supervisor is the best teacher. We take in boys and teach them on company time everything that is necessary for them to know about the institution, including their place in it, and how they will progress as they go on. We have a number of books written for our work and use these as a base for our studies. The boys stay with us for a few days or a week and then go into the bank.

We also have classes in what we call the National City Institute for boys, which holds sessions from seven to eight in the morning with a remarkable percentage of attendance. These classes discuss English History presented from the current events viewpoint and we try to present to the boys a general educational program that will be of value, including physical development, etc. In addition to this, we are paying one-half of the expenses of our employees in educational work, and instead of spending \$10,000 to \$20,000 for instructors, we tell our people that we

will help them in this way, if they will take a course in an approved institution. We also feel that if employees have the "pep" to do this work at night, they will demonstrate to us and to themselves that they are the ones who should be helped.

MR. HOPF: A very successful mail order house follows the practice of putting the business from the State of Maryland into a separate room for the purposes of training. All business received from Maryland is handled by this training squadron, and employees are thus given practical experience in the work.

MR. DE MOTTE: The training program has bothered us. It is very hard to justify. This is in connection with the sending of men to the foreign field. We took a number of college graduates, ranging from twenty-two to twenty-eight years of age, and gave them from five to six months training in New York, giving them an outline of the duties of this office and showing them its relation to the foreign field. They were then sent to France and placed in offices under foreigners of various kinds, and though we realized that they had the opposition of these office managers, still we did not think they made out as well as they should have done, and the practice of training college men for this work is "killed" for the time being. We must train men for foreign work, but the question is how to train college men so they will stay with us and become valuable.

MR. HOLTER: The trouble with the foreign field is that Americans have not the training in fundamentals that the English, Germans and other men from the Continent have. We do not hold out foreign work in a sufficiently attractive way to make it a life work. I know dozens of Americans who have gone to the foreign field, and after they have completed the three to five year contract, said they never could be tempted into it again.

DEAN TAYLOR: I am wondering if there is anything that can be worked out in practice with reference to training college men definitely for their work. I think we are handicapped by the fact that when a young man leaves college, from twenty-two to twenty-eight years of age, he thinks he is ready to take an official position; this is a serious difficulty in training men in college for particular kinds of work. High school graduates do not expect to become executives in thirty days, but college graduates expect to be executives in two weeks. No college that I know can take a young man and train him fully for business. The apprenticeship is inevitably a longer period than the average college graduate seems willing to take.

WILLIAM H. LOUGH, President, Business Training Corporation: I think too much is expected by the institution of an educational program. Too much is expected by the man who takes the training, and too much is expected by the business which employs a specially trained man.

How do we know that a person is fitted for foreign service? If we had some means of analyzing his character and testing him out in this way, it would be valuable, but none of us believes that this can be done at the present time. The best that can be done is to give the employee a broad general viewpoint of business to develop an esprit de corps and give him an inspiration and leave him to work out his special field. It is dangerous to try to turn out a finished product in any line.

MR. JENSON, the E. I. duPont deNemours Co.: When the war was over we had a number of college graduates who had made good in a number of lines. We took five of them and trained them specially in all parts of the work, and sent them to branch offices where they started in at the bottom and worked up to the position of chief clerk. After one and one-half years of this kind of training, three of the men had found permanent positions of a high grade and the other two had failed.

MR. STEFFAN: Our experience with the college graduate has been similar to that of Mr. de Motte and we have discontinued the work.

MR. COOK: A great many men have gone into foreign service and have given it up because they have not been able to see anything ahead. Many of them have spent ten years abroad and have gotten up to the \$5,000 class. They frankly state that if they are going to be anchored there, they would prefer to be in some part of the United States rather than in China.

MR. HOPF: It seems to me that we have discussed this subject for a considerable length of time, and I suggest that we turn to junior clerks—those from \$1,000 to \$1,800.

W. TRACY EDDY: What latitude should be allowed in selecting subjects?

MR. HOPF: That depends largely upon whether the course is given inside or outside. If the man is willing to spend his time and some of his money, it is a fair risk to give him rather wide latitude in making the selection. In general, the selections will be beneficial to the institution.

MR. JONES: The needs of the institution should be the governing factor.

MR. HOPF: We should take a very liberal view. The personnel office should approve the courses. It would be good business to err on the side of liberality.

### **New Jersey Bill on Apprenticeship**

A bill has been introduced into the New Jersey Assembly to prevent labor unions from restricting the number of young men who may learn a trade. Under prevailing conditions some labor unions dictate how many apprentices can learn a trade. The proposed law would prevent this limitation.

*The Hoboken Observer* remarks that "Industrial Education has become a feature of the curriculum in the advance schools in the larger cities of this and other states, but the students who have shown a marked aptitude for excellence in certain lines are practically excluded from getting the practical experience in shops that would make them masters of a trade, because of this arbitrary apprentice rule."

### **Business Training for Engineers**

The apparent fact that high salaries in the engineering profession go to men with business ability seems to be adequate justification for the discussion of the subject of business training at the December meeting of the A. S. M. E. in New York.

One session was given to a discussion of engineering education in which the importance of business training was emphasized.

It begins to appear that business management is the one thing which differentiates the most successful engineer from the highly specialized or technical engineer.

### **Building Trade Apprentices**

In Great Britain they are proposing to set up building trade apprenticeship committees in every center of the industry. The purpose is to arrange for addresses on the building industry and to distribute literature to the boys in the schools, and to interview, with their parents, boys who wish to enter the building trade.

### **The Stetson Suggestion Box**

The February number of *The Hat Box*, the employees' magazine of the John B. Stetson Company, contains an article which appeals to the employees to use the suggestion system. A suggestion system is an inverse method of training, and this article is a good educational use of an employees' magazine,

## Training in Industrial Publishing

**A** DEVELOPMENT of exceptional interest to many of our members is the organization during the past few months of a specialized training course in Industrial Publishing under the auspices of the New York Business Publishers' Association. This Association comprises the publishers of practically all the leading trade, technical and class papers in New York City. The publishers have for years felt the need of providing some form of specialized training in this field. In the spring of 1921, an Educational Committee was appointed, headed by H. M. Swetland, President of the United Publishers' Corporation. The Committee then retained the Business Training Corporation, of New York City, to organize and conduct a course in the fundamentals of industrial publishing.

It was decided that the first enrollments in the course should come from the men already actively engaged in the business. For this reason it was necessary to make the text-material and the instruction especially practical and meaty. A co-operating staff of over 40 publishers, editors, advertising managers, and heads of other specialized activities was formed; and from these men were drawn the data and the ideas which have been woven into the course. As Managing Editor of the series of fifteen text units, the services of Henry H. Norris, Managing Editor of the Electric Railway Journal, and formerly Professor of Electrical Engineering in Cornell University, were secured. For a period of several months Mr. Norris and his staff have been carrying on research on various questions, collecting material and preparing the texts. The text-books for this course constitute the first organized comprehensive study of the problems of this special type of publishing.

The course is being conducted along lines that have been developed by the Business Training Corporation through the use of a combination of home study of the prepared texts, written work consisting of solving a series of problems, a series of meetings devoted to lectures by men of high standing in the industrial publishing business, and another series of meetings devoted to discussion. The complete course is thirty weeks in length.

A remarkable feature of this undertaking is the high quality of the student body. It includes a majority of the publishers, editors, and department heads in this special field in New York



City. The United Publishers' Corporation has an enrollment of about 150 including the three editors of the *Iron Age*. The McGraw-Hill Company has also an enrollment of about 150. Altogether there are 11 classes now running in New York City. So great has been the interest aroused among industrial publishers in other cities that, at the October meeting of the Associated Business Papers, Inc., the national organization, it was voted to appoint an Educational Committee to provide for extending the work throughout the country, and this is now being done.

The results which this training is expected to accomplish are the following:

- (1) State the best principles and practices in industrial publishing and present them in teachable form so that all people in the business will have a common background to guide them in their work;
- (2) Develop more constructive thinking on the part of all people who study the course;
- (3) Develop better teamwork in each organization and throughout the business by bringing together people from various departments and giving them an intelligent appreciation and understanding of the work of men in other departments; in other words, develop throughout the people engaged in the business a vision of the whole business of industrial publishing rather than a narrow view of their departmental work;
- (4) By all these means raise the standards of the industrial publishing business so that it may render better service to its readers and advertisers in the industries it serves and to the industrial life of the nation.

This is one of a number of cases in which trade associations have undertaken to provide specialized training for the people already engaged in their industry; and this effort on the part of the industrial publishers is reported to be one of the most successful, especially in respect to the co-operation that has been secured and the quality of the men enrolled for the training. This tendency on the part of trade associations is one of great promise for the rapid development of commercial and industrial education.



## Why Have a National Association?\*

By M. S. Sloan

*President of the Brooklyn Edison Company*

**W**HAT are the functions of the National Association of Corporation Training? The first is to study and report on the training methods pursued by corporations and business organizations. The second is to help improve the relations between industry and commerce and established educational institutions, both public and private.

### **Co-operative Research.**

Whenever the number of corporations or individuals engaged in a similar work becomes sufficient, a national organization is formed. Through such an organization information obtained by one individual or organization becomes available to all. The National Association of Corporation Training was formed to meet the need for a forum for the exchange of experiences in training within industry. The amount of research and experimental work in training which each company must conduct has been materially lessened. The value of this conservation in a field which grew as rapidly as training in industry in the past decade is obvious. The committee reports and the convention bring out information of value to those undertaking training, and the national headquarters is a clearing house for additional data. The new plans call for considerable increase in this branch of the service to member companies, and member companies should fully avail themselves of the service.

### **Co-operation with Educational Institutions.**

No matter how willing educational institutions may be to train men better to fit the needs of industry and commerce, their training will be ineffective unless they know definitely what those needs are. Unfortunately, too many of the instructors in educational institutions have never worked in either shop or office. Their instruction, therefore, cannot in itself fit a man for a place in industry. Not only is their instruction likely to be incomplete so far as its practical application is concerned, but it is difficult for them to present correctly the industrial point of view. The National Association of Corporation Training is the logical organization not only to promote the idea of prac-

\*Part of an address before the New York Chapter of the Association.

tical experience on the part of teachers, but also to assist teachers in getting the industrial point of view.

### **Industry's Responsibility.**

If we in industry find fault with the public school and other educational institutions, we must tell the professional educator what we need. If we do not, our criticism is not constructive. While there are those who are in favor of greater specialization on the part of the schools, others argue that the schools should give only the general theoretical training and that industry should do its own practical training and bear the expense of such. The National Association of Corporation Training is certainly the logical organization to help to formulate the training needs of industry, insofar as they can be definitely stated for application by the schools.

### **Functions of Chapters.**

In conclusion, permit me to suggest some of the work which the local chapters of the National Association of Corporation Training can perform.

The first obvious work of the local chapter is to conduct a monthly or other schedule of meetings. These afford an opportunity for better acquaintance of local members and for discussion of common local problems.

Data on local training and educational activities should be collected by the local chapter and given to National Headquarters or to sub-committee chairmen.

The local chapter should also co-operate with other local agencies performing allied work, such as employment managers, clubs, chambers of commerce, executive clubs, public schools, etc.

Moreover, the increase in the membership of the National Association can be accomplished largely through the effort of the local chapters.

## Reviews and Abstracts

**Employees' Magazines in Canada.** (Published by the Department of Labor, Ottawa, Canada.)

This bulletin is the fourth of a series on industrial relations. It defines an employees' magazine as "a periodical publication" issued by a person, firm, or corporation for distribution among his or its employees, for the purpose of promoting personal relationships, unity, *esprit de corps*, and education. It lists and describes such publications as are issued in Canada, together with a list of books containing information about employee magazines.

**Improved Foremanship.** Bulletin No. 61 of the Federal Board for Vocational Education.

The object of this pamphlet, prepared by Charles R. Allen, Special Agent for Industrial Education, with the co-operation of J. C. Wright, Chief of the Industrial Education Service, is to make available knowledge of valuable experiments in foremanship training and instructor training courses, and to help to set up certain general principles with regard to the objectives to be attained by such training. The following is their definition of the term "foreman": "The term 'foreman' is used to designate, primarily, an individual, regardless of title, who represents the lowest link in the chain of authority, supervision, and management, that is, the minor executive, who stands next to the working force. For all practical purposes, however, the following discussion can be considered as including any minor executive, such as a supervisor, general foreman, forelady, assistant foreman, gang leader, boss, second hand, quartermen and leaderman." This definition suggests the scope of the pamphlet. It covers five parts as follows: "Preliminary Discussion; Types for Foremanship; Trade Extension Courses"—"Detailed Discussion of Trade Extension Courses"—"The Importance of a Clearly Defined Objective"—"General Factors Making for Efficiency in Foremanship Courses." The duties of the foreman are classified as supervisory, managerial, and instructional.

**Instructor Training.** By C. R. Allen. Bulletin No. 62 of the Federal Board for Vocational Education, Washington, D. C., June, 1921 pp. 1-43.

This clearcut analysis of what instructor training is and how it may or should be carried on is a very important contribution to the subject. It outlines instructor training courses for trade teachers and for foremen having an instructional responsibility,

pointing out clearly the difference in objective and the desirable difference in method and content. It suggests the importance of training instructors for training instructors if we are to make the desired progress.

Most interesting is the comparative discussion of typical courses including the continuous instructor training course, the discontinuous intensive training course, and the longtime training course.

While the bulletin is prepared obviously for the use of public officials, such as directors of State Boards of Vocational Education, it has an exceedingly suggestive value for educating directors of industrial and commercial organizations.

W. J. D.

**Foreign Trade—Markets and Methods.** By C. S. Cooper. D. Appleton & Co., New York, 1922. pp. xvi-440. Price \$3.50.

"No word is more strategic or vital in the realm of our overseas activity than the word 'preparation.'" With this point of view Mr. Cooper devotes two chapters to the subject of training, literature and study courses for foreign commerce.

He sets forth not only the importance of training, but also principles of selection of men for foreign commerce, and the principal methods of training. Particularly interesting is the description of practical methods used by The Standard Oil Company, W. R. Grace & Co., American Locomotive Co., Atlantic Refining Co., American Trading Co., International General Electric Co., General Motors Export Co., E. I. duPont deNemours Export Co., Guaranty Trust Co., Eastman Kodak Co., Armour & Co., United States Steel Co., Robt. Ingersoll & Bro., L. E. Waterman Co., Westinghouse Electric and Mfg. Co., National City Bank, Packard Motor Car, The Texas Co., and the Burroughs Adding Machine Co.

Courses of training at the College of William and Mary, Georgetown University, Boston University, University of Pennsylvania, Harvard University, and the University of Virginia are also outlined.

There is also a very useful bibliography for the student of foreign commerce.

W. J. D.

## Association News

### RELATION OF PSYCHOLOGICAL TESTS AND RATING SCALES TO TRAINING

Dr. Edward K. Strong, Jr., Director of the Bureau of Educational Research of Carnegie Institute of Technology, has accepted the chairmanship of a Committee on the Relation of Psychological Tests and Rating Scales to Training. He has already issued a trial questionnaire to a limited number of companies. The purpose of the Committee is "to ascertain what uses are being made of psychological tests and rating scales in training work": 1. *Intelligence* tests as a means of determining who can take a training course to advantage; 2. *Aptitude* tests as a means of determining what line of training a man should take; 3. *Progress* tests as a means of determining what progress has been made in the training.

Dr. Strong is anxious to have the names and addresses of men and women who are using tests and scales in connection with training work, or who are definitely planning to do so in the immediate future.

### COMMITTEE ON UNSKILLED LABOR AND AMERICANIZATION

The scope of the 1922 Committee on Unskilled Labor and Americanization, of which J. E. Banks of the American Bridge Company is Chairman, has been defined as follows:

1. To investigate the comparative results of Americanization along lines set forth in the report of 1921.
2. To consider racial adaptability to various kinds and conditions of plant work.
3. To study the effect of the recent immigration law on industry with

special consideration of the types of immigration which should be encouraged.

Meetings of the Committee have already been held in Chicago, Pittsburgh and New York.

### TRAINING EMPLOYEES IN ECONOMICS

Dr. Lee Galloway is Chairman of a Committee on Methods of Training Employees in Principles of Economics. Sub-committees are being formed in several cities. The objectives of the Committee are: 1. To determine the points of contact between the employee and his job where the principles of economics are not easily demonstrated; 2. To gather data which will be useful in illustrating the principles as they are working out through the various jobs and every day relationships of the employee with his job, his fellow employees, the firm and with his employers; 3. To determine the most effective method of getting the economic principles across to the employees—that is, whether by lectures, class-room, pictures, pamphlets, books or what not. The pedagogical problems involved in the Committee's work are: 1. To discover the conceptual background of the employee so that the principles of economics may make a direct approach to his comprehension; 2. To make the subject appeal to his interest; 3. To provide the most efficient pedagogical equipment or method for producing the desired result.

### JANUARY MEETING WESTERN NEW YORK CHAPTER

Reports from the 1922 Convention of the National Society for Vocational Education, which met in Kan-

sas City in January, made an extremely interesting program at the January 19 meeting of the Western New York Chapter, held at the Hotel Iroquois, in Buffalo. Interesting talks were given as follows:

**FRANCIS WING**—The National Society for Vocational Education.

**EDWARD T. WELSH**—Vocational Work in Vocational Schools.

**A. H. BINGHAM**—Rehabilitation of the Physically Handicapped.

**WILLIAM J. REGAN**—Part-Time Schools.

**WILLIAM B. KAMPRATH**—Co-operation Between Industry and the Vocational School.

**HARRY J. THOMSON**—A Vocational Teacher's Reaction to a Paper by an Employer on the Content of a Course of Study.

**W. W. KINCAID**—Co-operation Between the National Society for Vocational Education and the National Association of Corporation Training.

#### COMMITTEE ON VISUALIZED TRAINING

The membership of this year's Committee on Visualized Training is as follows: Chairman, Mr. H. M. Jefferson, Federal Reserve Bank of New York; Dr. H. C. Link, United States Rubber Company; Mr. C. W. Barrett, Western Electric Company; Mr. P. A. Raibourn, Famous Players-Lasky Corporation; Dr. Rowland Rogers, Picture Service Corporation, and Mr. Roy Davis, American Cinema Corporation. The Committee is developing a scheme for exchange of films among member companies for

educational purposes. It has also planned to devote the major part of its attention to the problem of visualizing some particular field of instruction—probably training for salesmen.

#### TRADE APPRENTICESHIP TRAINING

Mr. E. E. Sheldon, R. R. Donnelley & Sons Co.—The Lakeside Press—is again chairman of the Committee on Trade Apprenticeship. The purposes of the Committee this year are: 1. To suggest means of developing apprentice training courses, by means of (a) closer co-operation of industry with the continuation classes in the public schools, as in Wisconsin; (b) organized effort to develop training courses in more industries. 2. To suggest definite entrance requirements for apprenticeship courses, in order (a) to encourage the better students to enter training classes; (b) to assist industrial teachers in the public schools to plan their courses of study. The other members of the Committee are: R. F. Carey, Westinghouse Electric and Manufacturing Company; J. R. Berry, American Rolling Mill Co.; J. H. Yoder, The Pennsylvania Railroad; F. W. Thomas, The Atchison, Topeka and Santa Fe Railway; J. B. Chalmers, Yale & Towne Mfg. Co.; J. F. Raymond, Winchester Repeating Arms Co.; W. G. Catlin, Shepard Electric Crane and Hoist Co.; F. T. Jones, The Warner & Swasey Co., and Walter T. Simon, Supervisor of Apprentices, State Board of Education, Madison, Wisconsin.